


EARLY INTERVENTION IN THE REAL WORLD

Healthcare providers' perceptions of virtual-care with children's mental health in a pandemic: A hospital and community perspective

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Abstract**Aim:** The purpose of the present study was to explore the experiences of a diverse group of mental health clinicians both in hospital and in the community, who were required to rapidly adopt virtual-care practices in the delivery of mental health services to children, adolescents, and their families.**Methods:** Mental health clinicians ($N = 117$) completed the Clinician Virtual-Care Experience Survey assessing the following domains: ease of technology use, client/patient-provider interaction quality, and clinician wellbeing.**Results:** Although over 70% of clinicians had not used virtual-care to deliver mental health services prior to the Coronavirus Disease 2019 pandemic, more than 80% felt it was easy to operate the virtual platforms. Clinicians were divided in their perceptions of the effectiveness of virtual-care, with only 42% reporting that they felt they were as effective in delivering healthcare services virtually as compared to in-person. Virtual-care was described as being more effective for specific populations, while challenges were described in building rapport and when delivering difficult or unexpected feedback.**Conclusions:** Clinicians felt there were some benefits of adopting virtual-care practices, while challenges were also identified. Understanding of the impact of virtual-care on service providers is essential in order to strengthen mental healthcare for children, adolescents, and their families even beyond the pandemic.**KEYWORDS**

children and adolescents, COVID-19, mental health, psychiatry, virtual-care

1 | INTRODUCTION

Coronavirus Disease 2019 (COVID-19) was declared a global pandemic on March 11, 2020 by the World Health Organization (www.who.int). Physical distancing, school closures, and modifications to work environments changed the lives of youth and their families. Children and adolescents experienced mental health distress in previous public health crises (Brooks et al., 2020; Lau et al., 2010; Sprang & Silman, 2013; Tsai et al., 2016), with early data demonstrating similar

trends to date (Ellis et al., 2020; Hawke et al., 2020) and concern for increased distress with continuity of the pandemic (Brown et al., 2020; Courtney et al., 2020; McGrath et al., 2020).

Physical distancing guidelines provoked a rapid shift in delivery of healthcare from in-person to virtual-care (World Health Organization, 2020) in efforts to maintain services. Virtual-care provides opportunity to meet the gap of increased mental health distress and reduced access to in-person care because these practices maintain continuity of care and reduce risks to patients/clients and

providers (Boydell et al., 2014; Whaibeh et al., 2020). Adoption of virtual-care at our paediatric hospital and affiliated community mental health agency demonstrated a 13%–20% increase in visits compared to the same period in 2019 (N. Burford, personal communication, October 14, 2020; E. Smith, personal communication, October 15, 2020).

Efficacy of virtual-care for psychiatric services appears to have similar outcomes to in-person care (Carpenter et al., 2018; Hersh et al., 2006; Slone et al., 2012). In a randomized control trial (RCT) of youth attending a psychiatric clinic, 96% of diagnoses and recommendations were consistent across in-person and virtual-care (D. Elford et al., 2001; R. Elford et al., 2000). Similarly, children with depression randomized to in-person cognitive-behaviour therapy (CBT) or CBT delivered via videoconferencing, demonstrated comparable findings (Nelson et al., 2003). Further, reviews indicate high levels of satisfaction with videoconferencing from young people, families, and clinicians (Boydell et al., 2014). In light of this evidence and the necessity to provide care during a global pandemic, healthcare providers were faced with quickly adapting to virtual-care.

A rapid adoption of virtual-care requires staff and patient acceptance, engagement, and flexibility (Vis et al., 2018); however, little is known about healthcare providers' experiences and attitudes towards providing virtual-care. Historically, although mental health providers in Canada have reported somewhat positive attitudes towards virtual-care (Simms et al., 2011), barriers to implementing virtual-care include staff resistance and negative attitudes towards virtual-care (Ross et al., 2016; Vis et al., 2018). Factors important to virtual-care implementation include effective policies and incentives, adequate infrastructure and resources, staff engagement and acceptance, knowledge of technology, and ease of fit with daily workflows (Ross et al., 2016).

In a recent study, interviews conducted with 20 psychiatrists providing outpatient telemedicine services during the early phase of the pandemic (Uscher-Pines et al., 2020) reported that virtual-care increased ease of and access to healthcare. Challenges included a reduced ability to observe nonverbal cues, distractions in the patient's environment, compromised patient privacy, and unreliable internet. Further, psychiatrists felt the quality of patient interactions was negatively affected and preferred in-person appointments when safe to do so (Uscher-Pines et al., 2020).

Adopting virtual-care for delivery of mental health services appears to provide clear benefits for patient/client care, especially when in-person care may pose public health risks. Successful implementation of virtual-care in mental health clinics relies on staff flexibility, adaptability, and engagement. Therefore, it is important to consider healthcare providers' experiences providing virtual-care to understand the impact of this externally imposed change in practice. Further, a better understanding of the impact of virtual-care on clinicians and the delivery of mental health services will enable supporting this practice change beyond the pandemic. The aim of the present study was to explore the experiences of a diverse group of hospital and community clinicians providing mental health services to children, adolescents, and their families using virtual-care.

2 | METHODS

2.1 | Respondents

Respondents included mental health clinicians ($N = 117$; 45% from hospital and 55% from an affiliated community mental health agency), across a range of disciplines and roles, including social workers, psychologists, psychiatrists, nurses, family therapists, child and youth counsellors, and intake workers. The community agency was selected based on its affiliation with the host hospital. During staff meetings at both sites, all eligible respondents (i.e., providing mental health services virtually to youth and families) were informed about the research, including the purpose and method, and then invited to participate in the survey through an anonymous online link through REDCap (Research Electronic Data Capture) tools hosted at the Hospital for Sick Children (Harris et al., 2009; Harris et al., 2019). The survey link was emailed to all eligible respondents and those interested in participating were asked to complete the survey through the link provided in the email. Informed consent was obtained via written, signed consent in the first page of the REDCap survey. Ethics approval was obtained from the Research Ethics Board at the Hospital for Sick Children.

2.2 | Measure/survey

The Clinician Virtual-Care Experience Survey was developed from previous telemedicine satisfaction surveys (Morgan et al., 2014; Parmanto et al., 2016) and clinician input obtained from clinicians across both sites based on personal experiences and informal feedback from staff during the transition to virtual-care. There were six items adapted from the previous telemedicine surveys, and 19 new items were developed to include items specific to mental health provider service delivery and pandemic restrictions. The Clinician Virtual-Care Experience Survey includes 25 items across three domains: ease of technology use ($n = 4$); interaction quality ($n = 15$); and, clinician wellbeing ($n = 6$). Items are rated on a five-point Likert scale from 1 (completely disagree) to 5 (completely agree). Items rated at a 4 or 5 were reported in the affirmative, while items rated at a 1 or 2 were reported in the negative. Demographic items were included to identify employment location, profession type, and prior use of virtual-care. Open-ended items allowed respondents to provide additional comments within each of the three domains. The survey questions are presented in Appendix A.

2.3 | Statistical analyses

Descriptive statistics of respondent demographics included frequencies with percentages. Frequency data of each of the items was calculated to observe trends. Chi-square analyses were also completed to determine if there were any significant differences in the findings between the respondents at the hospital and community agency, as

well as across profession. Qualitative responses were analysed using thematic analysis, following an inductive approach (Braun & Clarke, 2006).

3 | RESULTS

The survey was distributed to 248 mental health clinicians across both sites, of which 117 (47%) were returned. Of the 117 respondents, 64% identified with a ‘therapist’ role (e.g., social worker, psychologist, psychotherapist, family therapist), 13% were ‘medical practitioners’ (e.g., psychiatrist, nurse, nurse-practitioner), and 27% reported ‘other’ (e.g., intake worker). The ‘therapist’ role included clinicians involved in psychotherapy, milieu therapy, and skill development. A range of virtual-care appointments were reported, most commonly: individual counselling/therapy, assessment, caregiver/parent counselling/therapy, and family counselling/therapy. Sample demographics can be found in Table 1. Of note, no notable significant differences were found in results between the hospital and community samples. The majority of respondents (71%) did not deliver virtual-care prior to the COVID-19 pandemic. A small proportion (23%) had prior experience with virtual-care, and compared to clinicians with no prior experience, they experienced significantly greater ease with using the technology, less difficulty with reduced access to nonverbal cues in client/patients, and less difficulty spending more time staring at a screen.

3.1 | Ease of technology use

As seen in Table 2, the majority of respondents (80%) found it easy to operate virtual platforms. Similarly, three-quarters (77.4%) reported that the technology worked as expected most of the time, and 60% indicated that they felt comfortable navigating glitches within the virtual-care platform. Most importantly, the majority of respondents (83%) indicated that virtual-care enabled them to remain accessible in providing mental health services effectively.

Results from qualitative responses ($n = 29$) spoke to both the advantages and disadvantages of technology use. Advantages included increased access to care for clients/patients and their families, (e.g., “virtual care was a blessing because families were able to get help and emotional support”), as well as the ability to sustain mental health services despite the disruption of in-person care, and reduced missed appointments by patients (e.g., “by providing Zoom sessions I have been more consistent in providing weekly, ongoing care and had fewer cancelled or missed appointments”).

Disadvantages included limited knowledge about technology and the time required to learn new programs. Respondents reported “the biggest struggle with technology is bandwidth and Zoom calls dropping” highlighting that poor internet connection was seen as a limitation while other respondents noted the lack of available norms for remote testing of cognitive functioning in psychological and neuropsychological assessment as limitations: “for

TABLE 1 Demographic characteristics of respondents at hospital and community sites

Characteristic	No. (%) of respondents
Employment	
Hospital	52 (44.4)
Community Mental Health Centre	65 (55.6)
Profession type	
Therapist	75 (64.1)
Medical practitioner	15 (12.8)
Other	27 (23.1)
Use of virtual-care prior to COVID-19	
Yes	28 (23.9)
No	83 (70.9)
N/A	6 (5.1)
Primarily used virtual-care platform	
OTN	12 (10.3)
PHIPA-compliant Zoom	85 (72.6)
Other	20 (17.1)
Number of hours/week of virtual-care	
0–4	24 (20.5)
5–10	48 (41.0)
11–15	22 (18.8)
16–20	11 (9.4)
20+	8 (6.8)
N/A	4 (3.4)
Appointment types (all that applied)	
Individual counselling and therapy	60 (51.3)
Assessment	53 (45.3)
Caregiver/Parent counselling and therapy	47 (40.2)
Family counselling and therapy	39 (33.3)
Instrumental support and case management	37 (31.6)
Educational support	34 (29.1)
Group therapy	25 (21.4)
Medication follow-up	15 (12.8)
Processing intakes and referrals	12 (11.1)
Other	18 (15.4)

neuropsychological assessment, we are limited in what we can provide virtually”.

3.2 | Interaction quality

Although half of the respondents (57%) reported that they could see patients as easily as if they met in person, a third (32%) disagreed. Similarly, while 53% could hear clients/patients as easily as if they met in person, 41% disagreed. More than half (69%) found it difficult to manage nonverbal nuances in communication with a client/patient,

TABLE 2 Perceptions of ease of technology use

Perception	No. (%) of respondents
Easy to operate virtual care platforms	
Completely disagree	1 (0.9)
Somewhat disagree	10 (8.7)
Neither agree nor disagree	9 (7.8)
Somewhat agree	51 (44.3)
Completely agree	42 (36.5)
N/A	2 (1.7)
Technology works as expected most of time	
Completely disagree	0 (0.0)
Somewhat disagree	14 (12.2)
Neither agree nor disagree	11 (9.6)
Somewhat agree	44 (38.3)
Completely agree	45 (39.1)
N/A	1 (0.9)
Comfortable navigating technology glitches	
Completely disagree	7 (6.1)
Somewhat disagree	15 (13.0)
Neither agree nor disagree	23 (20.0)
Somewhat agree	38 (33.0)
Completely agree	31 (27.0)
N/A	1 (0.9)
Virtual-care enabled continued delivery of effective mental health services	
Completely disagree	2 (1)
Somewhat disagree	8 (7.0)
Neither agree nor disagree	8 (7.0)
Somewhat agree	41 (35.7)
Completely agree	54 (47.0)
N/A	2 (1.7)

and similarly the majority (70%) indicated that seeing fewer nonverbal/body language cues reduced their ability to effectively interact with clients/patients. More than half (63%) found it difficult to manage other people in the client/patient's environment. Of the respondents who worked with an interpreter via virtual-care, approximately one-third (27%) were able to work as effectively virtually as compared to in-person. See Table 3.

The majority of respondents (78%) indicated that the age of the child/adolescent impacted effectiveness of virtual-care, and just over half (61%) felt that virtual-care was more effective with older children/adolescents. Less than 2% however did not feel that child/adolescent age impacted the effectiveness of virtual-care, with 16% reporting neither agreement nor disagreement.

Half of the respondents (50%) indicated that they were able to build rapport with clients/patients during virtual-care as easily as during in-person care. That said, less than half (42%) felt they were as

TABLE 3 Perceptions of patient-provider interaction quality

Perception	No. (%) of respondents
See clients/patients as easily as if we met in-person	
Completely disagree	10 (9)
Somewhat disagree	26 (23.4)
Neither agree nor disagree	9 (8.1)
Somewhat agree	47 (42.3)
Completely agree	16 (14.4)
N/A	3 (2.7)
Hear clients/patients as easily as if we met in-person	
Completely disagree	5 (4.5)
Somewhat disagree	41 (36.9)
Neither agree nor disagree	5 (4.5)
Somewhat agree	42 (37.8)
Completely agree	17 (15.3)
N/A	1 (0.9)
Speak louder during virtual-care compared to in-person care	
Completely disagree	11 (9.9)
Somewhat disagree	12 (10.8)
Neither agree nor disagree	21 (18.9)
Somewhat agree	41 (36.9)
Completely agree	21 (18.9)
N/A	5 (4.5)
Speak slower during virtual-care compared to in-person care	
Completely disagree	11 (9.9)
Somewhat disagree	22 (19.8)
Neither agree nor disagree	35 (31.5)
Somewhat agree	30 (27.0)
Completely agree	10 (9.0)
N/A	3 (2.7)
The age of the child/adolescent impacts the effectiveness of virtual-care	
Completely disagree	1 (0.9)
Somewhat disagree	1 (0.8)
Neither agree nor disagree	18 (16.2)
Somewhat agree	45 (40.5)
Completely agree	42 (37.8)
N/A	4 (3.6)
Virtual-care is more effective with older children/adolescents	
Completely disagree	4 (3.6)
Somewhat disagree	11 (9.9)
Neither agree nor disagree	18 (16.2)
Somewhat agree	43 (38.7)
Completely agree	25 (22.5)
N/A	10 (9.0)

TABLE 3 (Continued)

Perception	No. (%) of respondents
Difficult to manage nonverbal nuances in communication	
Completely disagree	3 (2.7)
Somewhat disagree	7 (6.3)
Neither agree nor disagree	21 (18.9)
Somewhat agree	44 (39.6)
Completely agree	33 (29.7)
N/A	3 (2.7)
Seeing fewer nonverbal/body language cues during virtual-care reduces effectiveness	
Completely disagree	4 (3.6)
Somewhat disagree	8 (7.2)
Neither agree nor disagree	19 (17.1)
Somewhat agree	45 (40.5)
Completely agree	33 (29.7)
N/A	2 (1.8)
Able to build rapport during virtual-care as easily as in-person care	
Completely disagree	7 (6.3)
Somewhat disagree	32 (28.8)
Neither agree nor disagree	14 (12.6)
Somewhat agree	43 (38.7)
Completely agree	13 (11.7)
N/A	2 (1.8)
Difficult to manage who is in the client/patient's environment	
Completely disagree	7 (6.3)
Somewhat disagree	11 (9.9)
Neither agree nor disagree	20 (18.0)
Somewhat agree	41 (36.9)
Completely agree	29 (26.1)
N/A	3 (2.7)
Difficult to manage client/patient safety in virtual-care	
Completely disagree	9 (8.1)
Somewhat disagree	22 (19.8)
Neither agree nor disagree	32 (28.8)
Somewhat agree	25 (22.5)
Completely agree	18 (16.2)
N/A	5 (4.5)
Able to work with youth and families where English is not their first language as effectively in virtual-care	
Completely disagree	11 (9.9)
Somewhat disagree	18 (16.2)
Neither agree nor disagree	23 (20.7)
Somewhat agree	13 (11.7)
Completely agree	12 (10.8)

(Continues)

TABLE 3 (Continued)

Perception	No. (%) of respondents
N/A	34 (30.6)
Able to work with an interpreter during virtual-care as effectively as in-person care	
Completely disagree	2 (1.8)
Somewhat disagree	15 (13.5)
Neither agree nor disagree	26 (23.4)
Somewhat agree	8 (7.2)
Completely agree	8 (7.2)
N/A	52 (46.8)
Can be as flexible in treatment delivery during virtual-care compared to in-person care	
Completely disagree	10 (9.0)
Somewhat disagree	26 (23.4)
Neither agree nor disagree	13 (11.7)
Somewhat agree	34 (30.6)
Completely agree	19 (17.1)
N/A	9 (8.1)
As effective delivering healthcare services virtually as compared to in-person care	
Completely disagree	10 (9.0)
Somewhat disagree	27 (24.3)
Neither agree nor disagree	22 (19.8)
Somewhat agree	30 (27.0)
Completely agree	17 (15.3)
N/A	5 (4.5)

effective in delivering healthcare services virtually as compared to in-person care, and a significantly greater proportion of medical practitioners reported that they were equally effective in delivering care virtually as in-person, compared to the therapists ($p = .03$). See Table 4.

Qualitatively, respondents ($n = 26$) described that virtual-care impacted patient interactions in a variety of ways, including rapport building and managing confidentiality, privacy, and disruptions in client/patient's homes. Virtual-care was described as more effective when initial meetings were completed in-person to establish rapport and then followed by virtual sessions; for example, "I am able to build rapport with my clients because we have an existing relationship and had done in-person visits. It would be difficult to build rapport virtually with new clients". Concerns regarding patient/client privacy and maintaining confidentiality while patients/clients were in shared spaces at home were also noted.

Respondents discussed the negative impact of limited nonverbal information from the patient during assessment and rapport building, and conversely, also noted that the virtual format changed the way in which silence impacts the therapeutic exchange: "I find it also more difficult to sit with silence in the virtual model due to the intense face-to-face interaction across screens".

Perception	Medical practitioner (n = 14)	Therapist (n = 72)	p value
	No. (%) of respondents	No. (%) of respondents	
Disagree	1 (7.1)	30 (41.6)	.03 ^a
Neither agree nor disagree	2 (14.3)	13 (18.1)	.73
Agree	10 (71.4)	26 (36.1)	.03 ^a
N/A	1 (7.1)	3 (4.2)	.63

^ap < .05.

The effectiveness of virtual-care was described as varying based on the patient/client's presentation, demographic profile, and appointment purpose. For example, respondents suggested that virtual-care was not as effective with younger children (e.g., "younger children are much harder to contain in a typical session and are able to sit for a short amount of time"), youth with difficulty sustaining attention and regulating behaviour, and when delivering upsetting feedback or unexpected diagnoses (e.g., "...having a connection around more emotional and distressing conversations can be a challenge via Zoom or by phone versus in-person").

Of note, some respondents suggested that not all patients and families were responsive to engaging in mental health services virtually for a number of reasons, including discomfort with technology, lack of access to technology, and privacy concerns within their homes. Respondents specifically reported, "some families do not wish to invite us into their homes and leave the video black", and, "families are at home and so sometimes that can be more challenging (e.g. managing privacy, disruptions)".

3.3 | Clinician wellbeing

Most respondents (70%) felt more fatigued after a day of virtual-care compared to in-person care. Half (51%) reported that their optimal number of daily, consecutive virtual sessions was three, followed by 27% suggesting four sessions. The majority (78%) felt it was difficult to spend more time looking at a computer screen as compared to in-person care, and about half (59%) indicated that they needed to take more breaks with virtual-care than in-person. See Table 5.

Qualitative responses (n = 9) revealed themes related to difficulty staring at a screen for an extended period of time; specifically, "It is a lot of eye strain", and, "staring at the screen is not a natural interaction for doing clinical care". Respondents also discussed having to learn to effectively pace out their appointments in order to incorporate breaks, something that is more spontaneous during in-person care: "although I need to take more breaks, this is harder to actually accomplish when there is no built-in opportunity [for] even a brief break/change (e.g., getting up to get a patient from the waiting room)".

4 | DISCUSSION

Systemic barriers have historically impeded a widespread implementation of virtual-care for the delivery of mental health services. The

TABLE 4 Perception that delivering healthcare services virtually is as effective as compared to in-person care by profession type using chi-square test

COVID-19 pandemic catalysed the use of virtual technologies globally to maintain continuity of care and may shift mental health service delivery beyond the pandemic (Nagata, 2020; Wind et al., 2020). With clinicians and organizations rapidly adopting virtual practices, the aim of this study was to understand the impact of this practice change on mental health clinicians providing virtual-care to children and adolescents. Of importance, our findings highlight that although over 70% of clinicians had not used virtual-care prior to the COVID-19 pandemic, many quickly transitioned to this new model of care. In doing so, they identified both strengths and challenges.

Understanding for whom and in what context virtual-care is most effective is a complex, yet critical consideration. While the shift towards virtual-care may increase access to care for some, it could inadvertently reduce access to care for particular populations. Concerns have been noted with virtual-care for individuals with serious mental illness, including chronic suicidality (Sasangohar et al., 2020), while more success with virtual-care has been found with anxiety and mood disorders (Carpenter et al., 2018; Hersh et al., 2006; Nelson et al., 2003; Slone et al., 2012; Topooco et al., 2019). Further, clinicians in the present study described virtual-care as more effective for older children and those better able to regulate their attention and behaviour, and noted challenges when providing upsetting or unexpected information. While in-person care is required for some medication appointments and psychological testing, virtual-care may be more appropriate in some situations, such as parenting skills training (Wade et al., 2020). Consideration of the type of information being communicated, seriousness of the mental health presentation, level of rapport with the provider, patient/client's motivation, and patient/client's access to a private and safe space to participate in virtual-care need to be examined to mitigate risks and enhance access to quality care (Barnett & Kolmes, 2016).

Notably, clinicians in the present study felt that patient/client care was somewhat comparable to in-person care, but noted important limitations with the quality of patient/client interactions. Further, a significantly greater proportion of medical providers compared to therapists and counsellors felt as effective across modalities. Research has suggested that the effectiveness of virtual-care for therapy improves with greater experience (Bierbooms et al., 2020) and similar to Uscher-Pines and colleagues (Uscher-Pines et al., 2020), clinicians in the present study reported that initially meeting with clients/patients in person to establish rapport and then transitioning to virtual-care allowed for a better therapeutic relationship. That said, a challenge with in-person care during a pandemic is the requirement to

TABLE 5 Perceptions of wellbeing

Perception	No. (%) of respondents
Optimal number of consecutive virtual-care sessions per day	
3	56 (51.4)
4	30 (27.5)
5	6 (5.5)
6	6 (5.5)
7+	0 (0.0)
N/A	11 (10.1)
Schedule is limited by my access to private space	
Completely disagree	27 (24.8)
Somewhat disagree	16 (14.7)
Neither agree nor disagree	7 (6.4)
Somewhat agree	34 (31.2)
Completely agree	20 (18.3)
N/A	5 (4.6)
Feel more fatigued providing virtual-care compared to in-person care	
Completely disagree	5 (4.6)
Somewhat disagree	6 (5.5)
Neither agree nor disagree	15 (13.8)
Somewhat agree	31 (28.4)
Completely agree	46 (42.2)
N/A	6 (5.5)
Need to plan ahead more for virtual-care	
Completely disagree	10 (9.2)
Somewhat disagree	14 (12.8)
Neither agree nor disagree	21 (19.3)
Somewhat agree	36 (33.0)
Completely agree	25 (22.9)
N/A	3 (2.8)
Able to focus just as well during virtual-care	
Completely disagree	9 (8.3)
Somewhat disagree	29 (26.6)
Neither agree nor disagree	12 (11.0)
Somewhat agree	37 (33.9)
Completely agree	20 (18.3)
N/A	2 (1.8)
Difficult to spend more time looking at a computer screen during the day	
Completely disagree	1 (0.9)
Somewhat disagree	8 (7.3)
Neither agree nor disagree	12 (11.0)
Somewhat agree	26 (23.9)
Completely agree	59 (54.1)
N/A	3 (2.8)

(Continues)

TABLE 5 (Continued)

Perception	No. (%) of respondents
Need to take more breaks when providing virtual-care	
Completely disagree	4 (3.7)
Somewhat disagree	17 (15.6)
Neither agree nor disagree	20 (18.3)
Somewhat agree	30 (27.5)
Completely agree	35 (32.1)
N/A	3 (2.8)

wear masks, which can interfere with rapport building. It is likely that increased experience with virtual-care and consideration of a hybrid model of in-person and virtual-care (where appropriate) (Kooistra et al., 2019), may result in more effective delivery of mental healthcare.

The finding that the majority of clinicians felt that the technology was easy to use and that virtual-care allowed them to remain accessible in providing mental health services is important for future planning. That said, given the rapid adoption of virtual-care and concerns noted with limited knowledge of virtual-care, clinicians would benefit from training to develop clinical competency using virtual-care (e.g., screening for appropriateness of virtual-care, strategies to enhance rapport building), as noted by others (Barnett & Kolmes, 2016; Goldstein & Glueck, 2016).

Of significant importance, clinicians in the present study discussed the impact of virtual-care on their wellbeing. Clinicians felt more fatigued using virtual-care, as compared to in-person services, and noted difficulty staring at a screen for long periods of time, which is consistent with “Zoom fatigue” reported by other healthcare providers (Maheu, 2020; Sasangohar et al., 2020). The importance of effectively pacing schedules and allowing for breaks were highlighted in this study. Additional recommendations include minimizing environmental distractions, using comfortable furniture, taking eyes off of the screen for a break, and moving or meditating during breaks (Maheu, 2020).

4.1 | Limitations

While the sample included hospital and community providers, the sample was from a large, urban city center with predominantly clinicians who work ‘in office’, compared to other aspects of the community (e.g., community prevention), which may preclude generalizations of clinicians’ experiences to other settings. As the findings were obtained during the pandemic and in the context of required public health measures, generalizability beyond the pandemic is cautioned. By prioritizing a concise survey to increase participant engagement, a more comprehensive set of items assessing contextual factors (e.g., access to prior training for virtual-care or experience with virtual meetings and teaching) was not included. Future research should consider elaborating on and validating the present survey. Finally, given

the methodology of this study and the nature of the survey, formal statistical analyses were not feasible. Future research would benefit from examining the impact of clinician and patient/client experiences with virtual-care on clinical outcomes, including treatment effectiveness, length of illness, and mental health symptoms.

5 | CONCLUSION

As the COVID-19 pandemic continues and access to mental health services are enabled through virtual-care, our understanding of the impact of these approaches on patients/clients and providers will be increasingly important. This research provides clinician generated considerations for future investigations to strengthen mental healthcare for youth and their families. For example, research should continue to evaluate when and for whom virtual-care is most effective. This is particularly relevant as we know that marginalized and racialized populations may often be significantly disadvantaged in accessing technology or private spaces enabling safe and reliable virtual-care. Involving youth and their families in the initial development, co-design, and early planning of virtual-care practices can address these barriers and enhance engagement. Finally, this research calls for a shift in thinking towards re-imagining technology as a platform from which to deliver mental health services. Given the rapid adoption of these approaches across the world, additional research will be essential to determine the quality, effectiveness, and outcomes associated with these evolving practices.

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CONFLICT OF INTEREST

The authors of this manuscript have no conflicts of interest to declare.

DATA AVAILABILITY STATEMENT

Data sharing is not applicable to this article as no new data were created or analyzed in this study.

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APPENDIX A: Clinician virtual care experience survey

Background Information:

1. I am an employee at:
 - Drop down menu:
 - Hospital name
 - Community mental health agency name
 - Other: _____
2. My profession is:
 - Drop down menu:
 - Therapist (e.g., social worker, psychologist, psychotherapist, family therapist, child and youth counsellor)
 - Medical practitioner (e.g., psychiatrist, nurse, nurse-practitioner)
 - Other
3. What platforms for virtual care do you primarily use with clients/patients?
 - Drop down menu:
 - OTN
 - PHIPA compliant Zoom
 - Other: _____
4. What platforms do you primarily use for your virtual office (e.g., team meetings)?
 - Drop down menu:
 - Office 365 Teams
 - Zoom
 - Teleconference
 - Other: _____

5. Did you deliver clinical care through a virtual platform prior to COVID-19 emergency measures?
 - o YES NO
6. Did you use remote access/Office 365 from home to perform your job prior to the COVID-19 emergency measures and the Work From Home (WFH) shift?
 - o Response Options:
Never Rarely Sometimes Often Always
7. Since March 16, how many hours per week on average do you deliver virtual care appointments to clients/patients?
 - o Drop down menu:
 - o 0-4
 - o 5-10
 - o 11-15
 - o 16-20
 - o 20+
8. How would you describe the majority of your virtual care appointments? Check all that apply
 - o Drop down menu:
 - o Processing intakes and referrals
 - o Assessment
 - o Individual counselling and therapy
 - o Family counselling and therapy
 - o Group therapy
 - o Caregiver/Parent counselling and therapy
 - o Instrumental support and case management (e.g., finding resources, making referrals for the family)
 - o Medication follow-up
 - o Educational support
 - o Other: _____

Rate the following items according to this scale:

1	2	3	4	5	N/A
Completely Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Completely Agree	

Ease of Technology Use

1. I find it easy to operate the virtual care platforms
2. The technology works as expected most of the time (i.e., at least 85% of the time)
3. I feel comfortable navigating technology glitches within the virtual care platform
4. Virtual care has enabled me to remain accessible in providing mental health services effectively
If disagree please explain why: _____.

Additional comments: _____.

Interaction Quality:

1. I can see clients/patients as easily as if we met in person
2. I can hear clients/patients as easily as if we met in person
3. I speak louder during virtual care compared to in-person care
4. I speak slower during virtual care compared to in-person care
5. I find the age of the child/youth impacts the effectiveness of virtual care
6. I find virtual care is more effective with older children/youth
7. I find it difficult to manage nonverbal nuances in communication with a client/patient (e.g., knowing who is going to talk next and when)
8. Seeing fewer nonverbal/body language cues during virtual care reduces my ability to effectively interact with clients/patients
9. I am able to build rapport with clients/patients during virtual care as easily as during in-person care
10. I find it difficult to manage who is in the client/patient's environment (e.g., other family members)
11. I find it difficult to manage client/patient safety in the virtual care setting
12. I am able to work with youth and families where English is not their first language as effectively during virtual care as during in-person care
13. I am able to work with an interpreter during virtual care as effectively as during in-person care
14. I can be as flexible in my treatment delivery during virtual care compared to in-person care
15. I am as effective in delivering healthcare services virtually as compared to in-person care

Additional comments: _____.

Clinician Wellbeing:

1. I find, the optimal number of consecutive virtual care sessions (e.g., therapy, assessments, meetings) daily that I can effectively deliver/participate in is:

o Drop down menu:

- o 3
- o 4
- o 5
- o 6
- o 7+
- o N/A

2. In delivering virtual care from home, my schedule is limited by my access to private space (i.e., separate room, away from others in my home)
3. After a day of delivering virtual care, I feel more fatigued than providing in-person care

4. I need to plan ahead more for virtual care compared to in-person care
 5. I am able to focus just as well during virtual care compared to in-person care
 6. I find it difficult to spend more time looking at a computer screen during the day compared to providing in-person care
 7. In delivering virtual care, I find I need to take more breaks than when I provide in-person care
- Additional comments: _____.